PLEOMORPHIC ADENOMA IN SWEAT GLAND: REPORT OF A CASE

H.M. Hashemi

Department of Oral and Maxillofacial Surgery, School of Dentisty, Tehran University of Medical Sciences, Tehran, Iran

Abstract - A case of pleomorphic adenoma in sweat gland is reported here. The histopathologic report confirmed the diagnosis. Pleomorphic adenoma is most common in salivary glands but very rare in sweat glands. Pleomorphic adenoma in sweat gland and the similar tumors of eccrin sweat gland are described that bear a striking resemblance to pleomorphic adenomas of salivary gland. Upon closer examination, the tumor contained areas of apocrine decapitation secretory activity, and primitive hair folicles indicating cutaneous rather than mucosal origin. One year follow-up examination has revealed no evidence of recurrence.

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Key Words: Pleomorphic adenoma, sweat gland tumors, salivary gland tumors, endothelioma

INTRODUCTION

The pleomorphic adenoma or benign mixed tumor is easily the most common salivary neoplasm. It accounts for 53 to 77 percent of parotid tumors, 44 to 62 percent of submandibular tumors, and 38 to 43 percent of minor gland tumors (1).

This tumors is very rare in sweat gland but it is not surprising because secretory epithelial cell and myoepithelial cell are present in sweat gland.

Report of case

A 39 - year - old normally developed male came to our clinic for treatment of 1 × 1 cm firm, well circumscribed, painless, dermal nodule in his left cheek of 14 monthes duration (Fig 1A,B).

Under local anesthesia and with rhomoboid flap the nodule was enucleated. The nodule was white, firm, and homegeneous, and extended to the deep dermis. The specimen was submitted for microscopic examination. The tumor consisted of variably sized sheets, cords, and islands of epithelial cells, contained within and divided by septae of collagenous connective tissue. The epithelial cells formed variably sized cysts, acini, and ducts (Fig. 2). Myxomatous, hyaline and edematous mucoid and hair follicles are observed (Fig. 3).

DISCUSSION

Sweat glands are first seen in the 12-13 week embryos on their palms and soles (2).

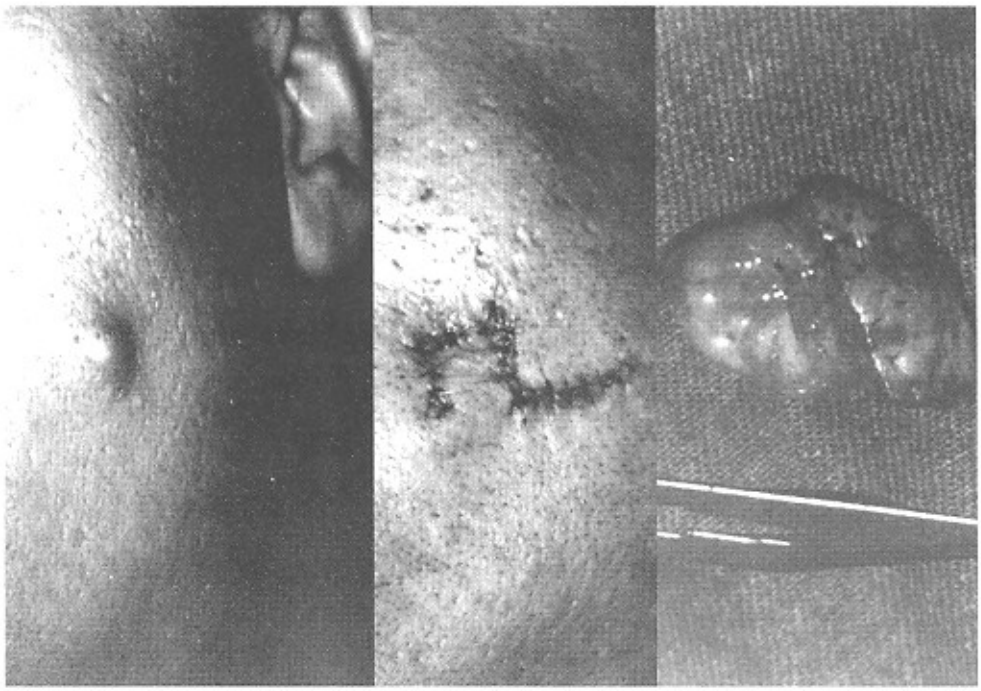
Microscopically the germs are seen as collections of deeply basophilic cells in the basal layer of epidermis (3). At 16 weeks of gestation, both intraepidermal and intradermal tubular lumina begin to form (4). At this stage of luminal formation both the secretory and ductal components consist of a double layer of epithelial cells, innerluminal and outer basal cells (3). At a later stage these two cell layers in the secretory region differentiate into tall columnar luminal secretory cells and myoepithelial cells (3).

At birth the eccrine glands approximate adult morphology with nearly equal numbers of clear cells containing glycogen and darker cell containing periodic acid - schiff positive, disatase resistant neutral mucopolysaccharides (5).

The benign "mixed" tumor of salivary glands has masqueraded under a great variety of names throughout the years (e.g., enclavoma, branchioma, endothelioma, enchondroma), but the term "Pleomorphic adenoma" suggested by Willis characterizes closely the unusual histologic pattern of the lesion (6). It is almost universally agreed that this tumor is not a "mixed" tumor in the true sense of being teratomatous derived from more than one primary tissue.

Its morphologic complexity is the result of the differentiation of the tumor cells, and the fibrous hyalinized, myxoid, chondroid and even osseous areas are the result of tissue changes or are actually products of the tumor cells per se (6). The tumor is composed of a mixture of glandular epithelium and myoepithelial cells within a mesenchyme-like bachground, the epithelium often forms ducts and cystic stuctures or may occur as islands or sheets of cells (1). Recurence must be considered because the tumoral cells are inside and outside the lesion.

Myoepithelial cells often make up a large percentage of the tumor cells.



A B C

Fig. 1A,B,C. Clinical view of the tumor and surgical approach

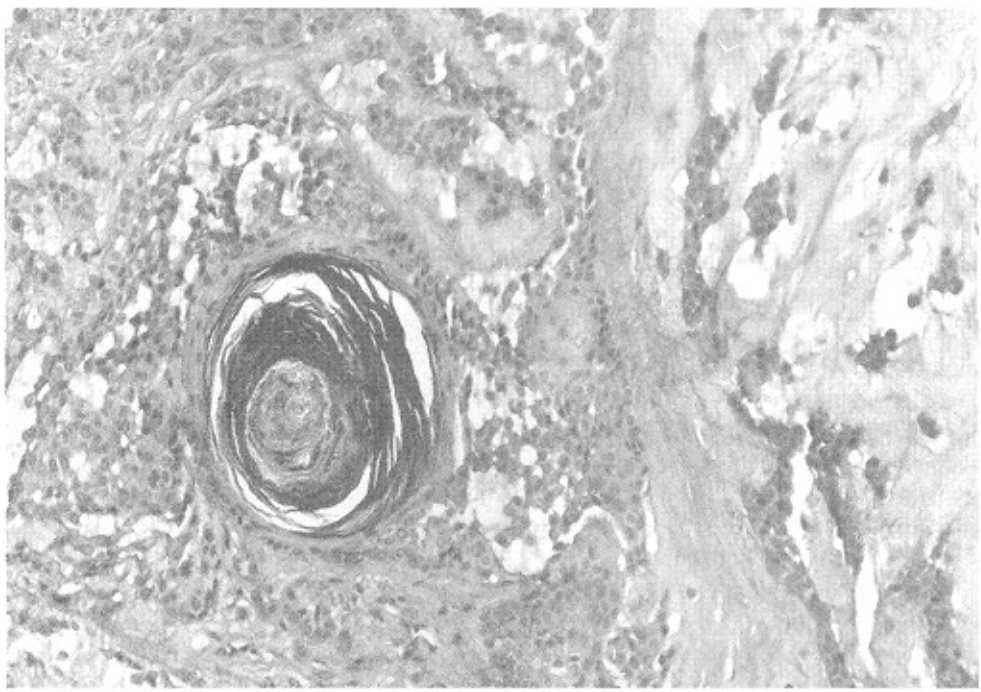


Fig. 2. Tumoral cells, ductal structures and keratin in a variably dense and occasionally hyalinized stroma.

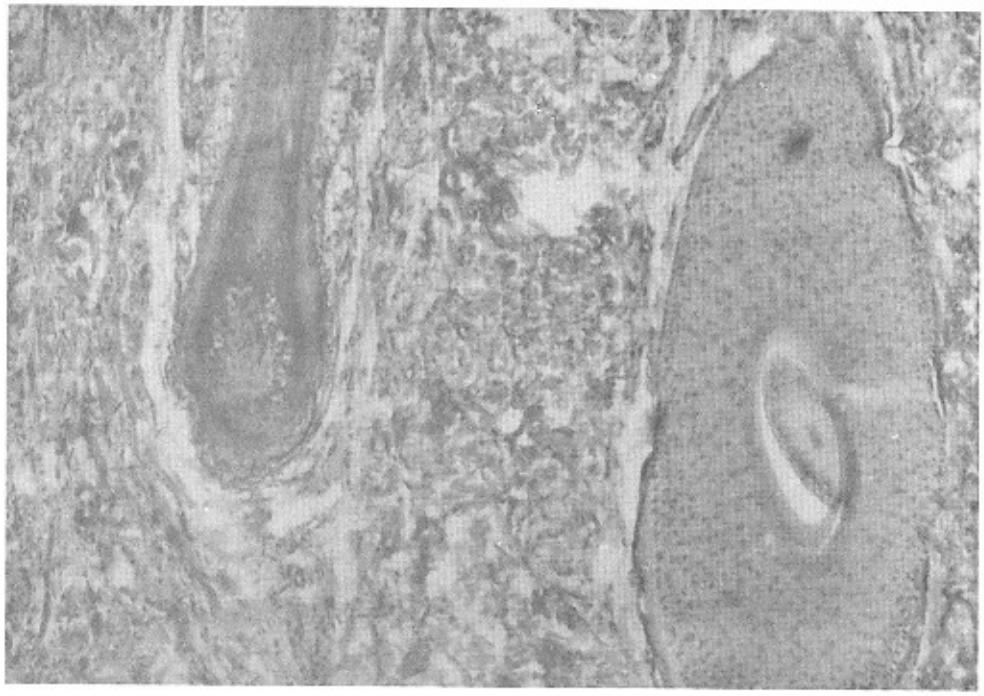


Fig. 3. Hair folicle that indicates cutaneous rather than mucosal origin

It seems that this lesion has been previously reported with other names: such as sweat gland adenomas of the clear cell type (7), eccrine acrospiromas (8), nodular hidradenoma (3), and clear cell hidradenoma (5). They generally present clinically as firm intradermal nodules covered by intact skin. Due to the histologic similarity, Lund considered mixed tumors of the skin to be variants of nodular hidradenom (9). He also concluded that eccrine tumors of the perioral region could be influenced "tissue factors" of the oral cavity thus displaying some of the histologic components of salivary gland. Pahor and O'Hara presented one new case and reviewed seven previous cases of "pleomorphic adenomas" arising in the external auditory meatus from cerumonous glands which are apocrine in origin (10).

These tumors are clinically benign in behavior, similar to pleomophic adenomas derived from apocrine accessory lacrimal glands of the eyelid which have also been described (11). While melanin pigmantation was not included in the early histologic descriptions of eccrine tumors (3), Whilson-Jones confirmed active melanogensis in five such tumors (12). In general, adenexal tumors of the skin contain no melanocytes and therefore are not pigmented (3). However, although melanocytes are found in adults sweat gland ducts, they are a component of sweat duct germs in the 14-week embryo (4).

REFERENCES

1. Neville. BW, Damm D.D, Allen C.M, Bouquot J. E, Oral and Maxillofacial Pathology, Saunders Co. (Philadelphia). 339-341. 1995.

2. Hashimoto K, Gross BG, Lever WF. The ultrastructure of the skin of human embryos, I. The intradermal eccrine sweat duct. J Invest Dermatol. 45: 139; 1965.

3. Vincent S.D, Hammond H.L, Nodular Hidradenoma. An eccrine sweat gland analog of pleomorphic adenomas of salivary gland origin. J Oral Maxillofac Surg. 45: 80-83; 1987.

4. Hashimoto K, Gross BG, Lever WF. The Ultreastructure of Human embryo skin, II. The formation of the intorademal portion of the eccrine sweat duct and secretory segment during the first half of embryonic life. J Invest. Dermatol. 46: 513; 1966.

5. Lever WF, Schaumberg-Lever G: Histopathology of the skin. Philadelphia. JB Lippincott. 105-122; 1975.

6. Shafer W.G, Hine M.K, Levy B.M, A textbook of oral pathology saunders company (Philadelphia) 230-231; 1983.

7. O'Hara JM, Bensch K, Loannides G. Eccrine sweat gland adenoma, clear cell type: a histochemical study. J of cancer 19: 1438; 1966.

8. Johnson BL, Hewling EG. Eccrine acrospiroma: a clinico pathologic study. J of cancer 23: 641; 1969.

9. Lund HZ: Tumors of the skin, in Atlas of tumor pathology. Section, I, Fasc. 2. Armed forces Institute of pathology, pp: 97-112; 1957.

10. Pahor AL, O'Hara MD. Hidradenomato of the external auditory meatus. J Laryngol 0 to 1. 89: 707; 1975.

11. Cheng PG. Pleomorphic adenoma of the lid. Chin med J 83: 49; 1964.

12. Wilson-Jones E. Pigmented nodular hidradenoma. Arch Dermatol. 104: 117, 1971.